



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/589,626

08/16/2006

Kazutaka Mukaiyama

M1071.1978

3819

32172

7590

08/21/2008

DICKSTEIN SHAPIRO LLP

1177 AVENUE OF THE AMERICAS (6TH AVENUE)

NEW YORK, NY 10036-2714

EXAMINER

GLENN, KIMBERLY E

ART UNIT

PAPER NUMBER

2817

MAIL DATE

DELIVERY MODE

08/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,626	<b>Applicant(s)</b> MUKAIYAMA ET AL.	
	<b>Examiner</b> KIMBERLY E. GLENN	<b>Art Unit</b> 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 17-20 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/16/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/16/06 9/14/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

Claim 16 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 15. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 1 is objected to because of the following informalities:

1. (Currently amended) A transmission line connecting structure comprising: a transmission line including a dielectric substrate, an electrode formed on a first side of the dielectric substrate, and a first slot having a predetermined width and formed in the electrode, a plurality of such transmission lines being connected; wherein an electrode of a first of the plurality of transmission lines and an electrode of another one a second of the plurality of transmission lines are positioned at a distance from one another to form a gap there between; wherein a resonator is connected to each of the plurality of transmission lines so as to be able to couple with one another, one end of each of said resonator being open on a side thereof facing the gap, wherein at least one stub for suppressing leakage of a signal in the gap between the plurality of electrodes is provided in at least one of said electrode of the plurality of transmission lines; and wherein, when the wavelength of a signal in odd mode which propagates the transmission line is  $\lambda_{g\_odd}$ , a length of the stub is approximately  $\lambda_{g\_odd}/4$ , and a length between the resonator and the stub is smaller than  $\lambda_{g\_odd}/2$ .

3. (Currently amended) A transmission line connecting structure comprising: a transmission line including a dielectric substrate, an electrode formed on a first side of the dielectric substrate, and a first slot having a predetermined width and formed in the electrode, a plurality of such transmission lines being connected; wherein an electrode of a first of the plurality of transmission lines and an electrode of another one a second of the plurality of transmission lines are positioned at a distance from one another to form a gap there between; wherein a resonator is connected to each of the plurality of transmission lines so as to be able to couple with one another, one end of each of said resonator being open on a side thereof facing the gap, wherein at least one stub for suppressing leakage of a signal in the gap between the plurality of electrodes is provided in at least one of the plurality of transmission lines; and wherein, when the wavelength of a signal in odd mode which propagates the transmission line is  $\lambda_{g\_odd}$ , a

Art Unit: 2817

length of the stub is approximately  $\lambda_{g\_odd}/4$ , and a length between the resonator and the stub is smaller than  $\lambda_{g\_odd}/2$ .

Appropriate correction is required.

NOTE: The above are mere suggestions and should not be considered an

Examiner's Amendment

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 3

In line 5 of the claims, applicant discloses "a plurality of such transmission lines". How does this plurality of transmission lines relate to the transmission line recited in line 3?

In lines 6 and 7 of the claims, applicant discloses "an electrode ". How do these electrodes relate to the electrode recited in line 5?

In line 16 of the claims, applicant discloses "a signal ". How does this signal relate to the signal recited in line 13?

In line 17 of the claims, applicant discloses "the transmission line ". Is applicant referring to the transmission line recited in lines 3 or the plurality of transmission lines recited in line 5?

Claim 5

In claim 5, applicant recites "a transmission line". How does this transmission line relate to the transmission line recited in line 3 and the plurality of transmission lines recited in line 5?

***Allowable Subject Matter***

Claims 14 and 17-20 are allowed.

Claims 1-13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: With regards to the independent claims, the prior art of record does not disclose the specific circuit configuration with emphasis on the stub.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Heath US Patent 3,415,015 discloses a stripline filter (figure 9);

Shen US Patent 5,750,473 discloses a superconductor filter (figure 3b);

Tsujiguchi et al US Patent 6,489,865 discloses a stripline filter (figure 4)

Mikami et al US Patent 6,538,526 discloses a transmission line connection structure (figure 1A);

Mukaiyama et al US Patent 6,943,651 discloses a dielectric resonator (figure 17);

Satoh et al US Patent 7,245,195 discloses a coplanar waveguide filter (figure 2A);

Hirose et al US Patent 7,274,273 discloses a dielectric resonator (figure 15) and Koizumi et al US Patent 7,378,924 discloses a filter (figure 10).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIMBERLY E. GLENN whose telephone number is (571)272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/BENNY LEE/  
PRIMARY EXAMINER  
ART UNIT 2817**

Kimberly E Glenn  
Examiner  
Art Unit 2817

20080806  
/K. E. G./  
Examiner, Art Unit 2817